



# New Zealand Aluminium Smelters Limited

Annual DOC Compliance Report for PAC-14-18-08

Pest Animal and Plant Control on Tiwai Peninsula

Year Ending 31 July 2020



**Distribution:** Department of Conservation

**Service Provider:** NZAS

**Date:** 28 August 2020

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# **Pest Animal and Plant Control on Tiwai Peninsula During the Year Ending 31 July 2020**

## **1 Introduction**

New Zealand Aluminium Smelters Limited (NZAS) manages land on Tiwai Peninsula on behalf of Rio Tinto. The land includes freehold land and land leased from the Crown through the concession permit held with the Department of Conservation (DOC). The Concession lease for Tiwai Peninsula is PAC-14-18-08 which is valid from 1/1/2000 to 31/12/2029.

The DOC concession includes a number of conditions including Special Condition 6, Schedule II, which requires NZAS to:

- undertake a plant and animal pest control programme, and
- report to DOC by 1 September each year on the previous years' work and on the work proposed for the following year.

The condition applying to the pest control programme is to 'control animal and plant pests to the standards required by the Regional Pest Management Strategies for Southland.

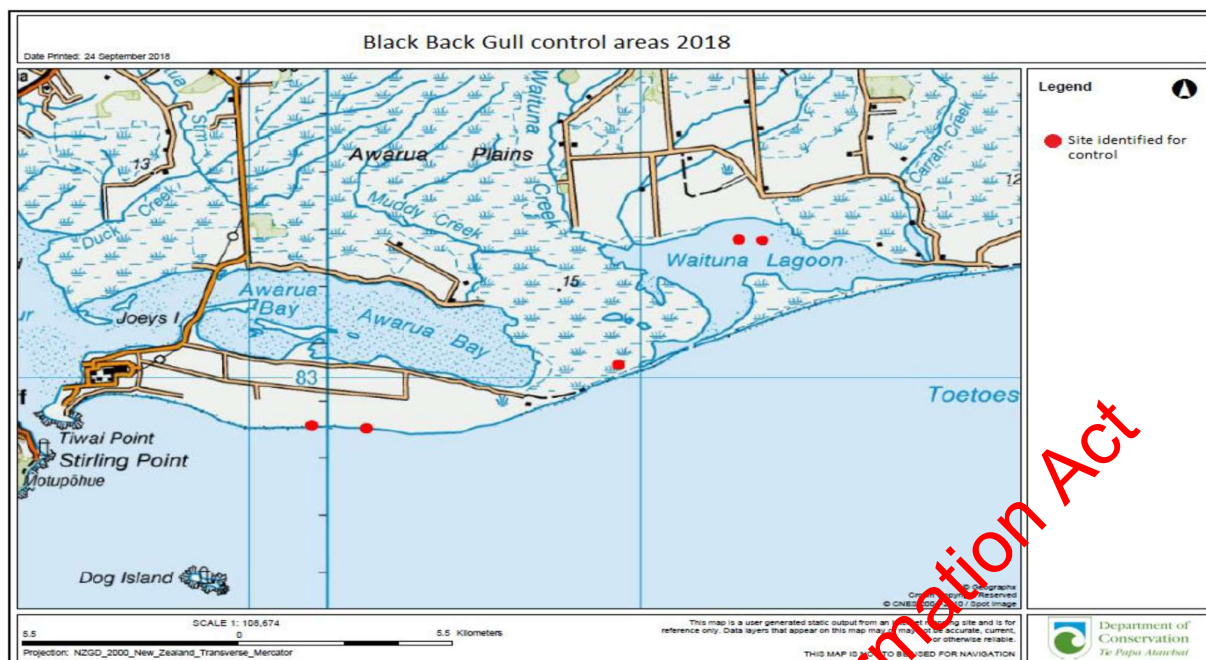
## **2 Main Events of the 2019/2020 season**

### **2.1 Coastal Erosion**

Coastal erosion on the south coast of the Tiwai Peninsula is continuing and NZAS is closely monitoring this activity from the ground and by an annual aerial survey. Posts 2 meters apart are placed in the ground to track the erosion from the ground. From August 2019 to July 2020 four meters were lost. In comparison to five meters lost in the previous year.

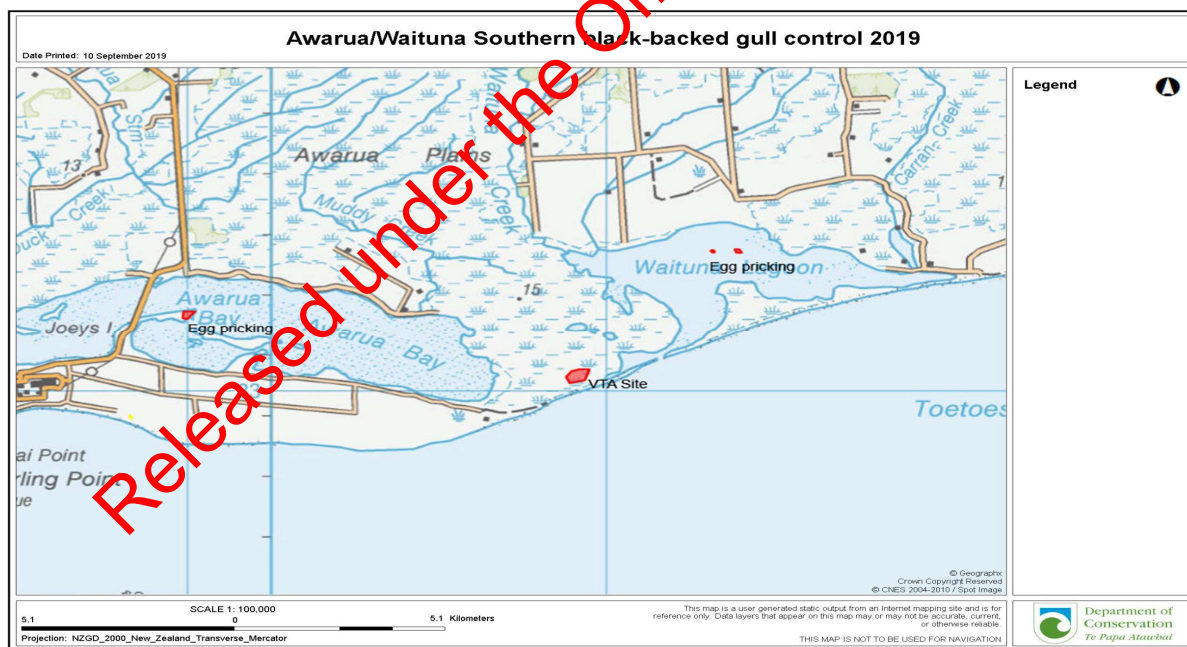
### **2.2 Southern Black-backed gull control**

High numbers of Southern Black-backed gulls were still present at Tiwai Peninsula during the last season. They have been found to be displacing banded dotterel, spreading seeds and impacting wetland turfs. In November 2018 DOC started a pest control programme to reduce the high numbers of Southern Black-backed gulls using alpha-chloroalose toxin laced bread. DOC developed a programme in 2018 aiming to reduce the numbers found in established colonies on Tiwai Peninsula and around Waimāna Lagoon. The areas controlled in 2018 can be seen in Figure 1: Colonies of Black-backed gulls controlled in 2018.



**Figure 1:** Colonies of Black-backed gulls controlled in 2018

Further control work was undertaken in September 2019 during the nesting season. The areas controlled on Tiwai Peninsula changed for the 2019/2020 season. The map below in Figure 2 shows the location of the 2019 operation.



**Figure 2:** Colonies of Black-backed gulls controlled in 2019

No control of Black-backed gulls was undertaken around the plant or in the landfill in 2019.



### 2.3 Recreational use of Conservation land

NZAS control access to the Conservation land on Tiwai Peninsula via a permit and padlock system. In the 2019/2020 season there was a significant increase in the visitors to the area by recreational users. The main activity is diving and fishing at Tiwai Spit. Damage to some of NZAS fences and gates to control access to the Conservation was damaged during the winter of 2019 (Figure 3).



Figure 3: Damaged gate to Boreline Road

### 2.4 Approval for Underground Power Cables on Tiwai Peninsula

Two actual and two potential vegetation fires occurred between March 2017 and Jan 2020 on Tiwai Peninsula due to malfunction of overhanging power cables. To mitigate this fire risk the smelter approached DOC in 2018 to seek approval from them to bring the 11kV power lines on the Peninsula underground. NZAS's proposal to bury all 11kV power lines underground was accepted on 16 January 2019. Due to the strategic review announcement in 2019 and the recent decision to close the plant this project has been placed on hold.



Figure 4: Fire potential from a burning possum dropping to the ground after scaling a power pole on the Peninsula

### **3 Control of Pest Plants**

#### **3.1 Gorse and Broom**

Most spraying in the 2019/2020 season was performed by using helicopters as that is the most cost effective way to spray for weeds on Tiwai Peninsula. The tall vegetation is making it difficult for ground spraying. Spraying was done in conjunction with DOC's annual aerial and ground spraying. The main focus was on gorse, broom and lupins.

#### **3.2 Other Weeds**

No specific target control of Pines, Ragwort or Spanish Heath was undertaken in the 2019/2020 season.

#### **3.3 Proposed pest plant control during the next year**

The pest plant programme for the 2020/2021 season will continue to focus on gorse, broom and lupins. Angelica and Stone Crop located on the beach front are generally controlled by DOC. NZAS will continue to work in conjunction with DOC on weed spraying and focus on aerial spraying in preference to ground spraying as this method appears to be most cost efficient.

### **4 Control of Pest Animals**

#### **4.1 Pest animal control during the previous year**

The control of pest animals during the last several seasons has been based on the following approach:

- Using calicivirus if made available and shown to be effective in NZ,
- Rabbit, possum and cat shooting done by the Southland Recreational Hunting Club and DOC, and
- Stoat trapping undertaken by DOC.

Each type of pest animal controlled on the Tiwai Peninsula and around the Plant during the 2019/2020 season is described below.

#### **4.2 Stoats, Weasels, Ferrets and Cats**

The stoat trapping programme initially set up in September 2011 and run by DOC and NZAS volunteers was paused at the end of 2013 due to organisational and priority reviews within DOC. It was resurrected in July 2015 and since then run by DOC. NZAS is no longer involved in this project as DOC has contracted it out.

#### **4.3 Possums**

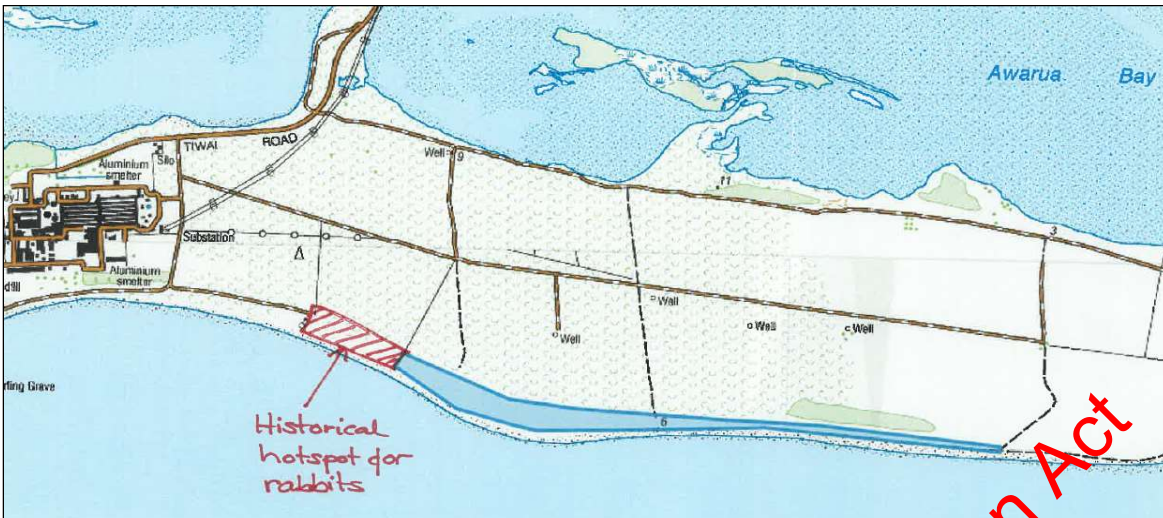
Possum control has been given low priority during the season as historically the numbers have been low on the Tiwai Peninsula. Some have been shot by the Southland Recreational Hunting Club. No trapping of possums was undertaken in the past season.

#### **4.4 Rabbit Monitoring**

Environment Southland (ES) stopped monitoring rabbit levels at the historical compliance sites in 2016 as they did not consider Tiwai Peninsula a priority any longer. DOC have performed an assessment of the rabbit numbers on the Peninsula for the last two years over at 5-6 km distance of the southern coastline using the night count method.

A baseline was established in April 2019 with a rabbit count of 540 for the southern coast line. Control work was undertaken and the count dropped to 21. In 2020 the rabbit count was 48 after control work was undertaken. The area monitored for rabbits are shown on the map in Figure 5 below.





**Figure 5:** Location of rabbit number counts. (red is a hotspot, blue is medium to low numbers)

#### 4.5 Rabbit Control

During the winter of 2020, DOC laid pindone bait and fumigated 50-100 burrows on the southern coastline of Tiwai Peninsula to maintain low rabbit numbers. The rabbit count after the controls were completed was 48 which is slightly higher than the previous year.

Limited rabbit shooting was undertaken on the Peninsula by the Southland Recreational Hunting Club during the Covid-19 lock down period so DOC has planned to increase the night shooting using a contractor to keep the numbers low.

#### 4.6 Proposed pest animal control during the next year

The proposed pest animal control programme for the year ending 31 July 2021 is likely to be similar to the 2019/2020 season. The number of rabbits will be assessed in the coming autumn to ensure that current levels are sustainable. Any changes or new methods introduced will be agreed with DOC before implementation.

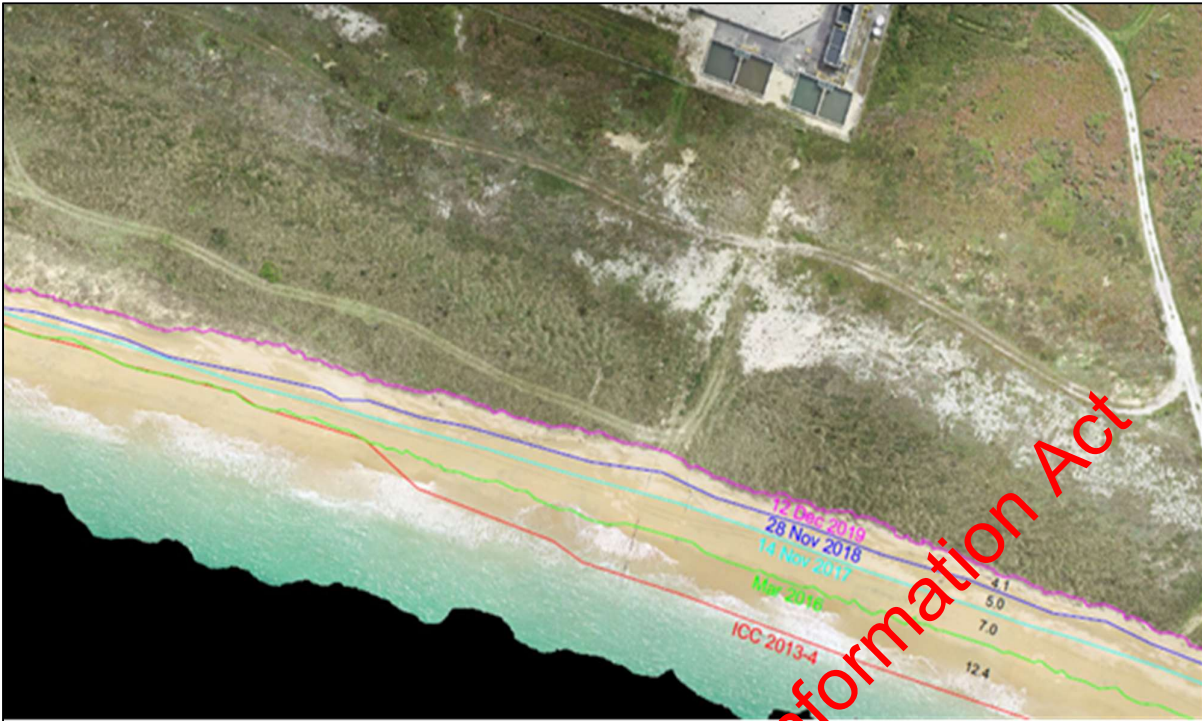
#### 4.7 Future management of Tiwai Peninsula

NZAS will continue to work closely with DOC to develop a joint pathway forward to maintain a cost effective animal and weed pest management of Tiwai Peninsula.

### 5 Projects Undertaken on the Peninsula

#### 5.1 Coastal Erosion of Tiwai Peninsula

Coastal erosion on the south coast of the Tiwai Peninsula has been observed over the last five years. In May 2017 a Coastal Dynamics Study was undertaken by MetOcean Solutions. They studied the historical weather data and aerial photographs of the coastline to predict an average erosion rate for the future. NZAS needed to know if the fast encroaching shore line was likely to threaten NZAS's groundwater monitoring bores or infrastructure by the Cathode Treatment Plant. They found that the coastline was considerably closer in 1950 than seen today and occurrence of alternating erosion and accretion with an average erosion rate of 2m/year. During November 2017 a baseline of the coastline shown in the image below was mapped by surveyor TrueSouth. Parts of the baseline were repeated in November 2018 and again in December 2019. The average erosion rate by the Cathode Plant has been 4 meters/year for the last 3 years. Survey data obtained between 2016 and 2019 are displayed in Figure 6 below.



**Figure 6:** Coastline mapped in November 2019

## 5.2 Skink Survey

DOC did a skink survey at Tiwai Spit in Jan/Feb 2019 and a report is expected to be compiled with the findings in the near future. Data will be compared to local weather data gathered at the NZAS Met station.

## 5.3 Rescue of wildlife at Tiwai

No birds were rescued from site over the last 12 months, however a seal was found on Tiwai Strait that required transported back to the sea for release.

## 6 Conclusion

NZAS has continued discussions with DOC during the last season to optimise the control methods used. The financial strain on the aluminium industry has forced NZAS to continuously look for alternative methods to undertake pest management programmes to sustain the long-term environmental management of Tiwai Peninsula.